

REMARKS

Claims 1, 4 to 7, 12, 15 and 16 are all the claims pending in the application.

Claims 1, 5 to 7 and 16 have been rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent 6,410,640 to Fukunaga et al as evidenced by U.S. Patent 4,960,844 to Singh.

Applicants submit that Fukunaga et al and Singh do not disclose the subject matter of the claims of the present application and, accordingly, request withdrawal of this rejection.

The present invention as set forth in claim 1 is directed to a curable composition comprising an organic polymer (A) which has on average 1.1 to 50 groups per one molecule thereof each represented by general formula (1), representing a urethane bond, and has one or more silicon-containing functional groups capable of cross-linking by forming siloxane bonds and a tin carboxylate (B) in which the carbon atom adjacent to the carbonyl group of the tin carboxylate (B) is a quaternary carbon atom.

Applicants submit that the invention of claim 1 is inventive over Fukunaga et al because the present invention is a selective invention over the teachings of Fukunaga et al.

Thus, claim 1 recites a curable composition comprising a specific organic polymer (A) and a specific tin carboxylate (B). The tin carboxylate has a quaternary carbon atom adjacent to the carbonyl group. The presence of such a quaternary carbon atom provides an unexpected effect of the invention set forth in claim 1.

The present specification states that a metal carboxylate in which the carbon atom adjacent to the carbonyl group is a quaternary carbon atom is preferable because of rapid curing rate, and lists tin neodecanoate and tin pivalate, which are tin carboxylates, as examples. See

page 29, lines 9 to 12 of the present specification. The rapid curing rate achieved by such a tin carboxylate is demonstrated in the Examples of the present specification. See, for example, Example 5 of the present specification.

On the other hand, Fukunaga et al do not provide any working Example of a curing composition that comprises such a tin carboxylate having a quaternary carbon atom adjacent to the carbonyl group, and contain no discussion that such a tin carboxylate produces an unexpected effect. Of course, the unexpected effect of the invention set forth in claim 1 cannot be obvious from the teachings by Fukunaga et al.

In other words, the inventive concept of the present invention as set forth in claim 1 is clearly distinct from that of Fukunaga et al. A person of ordinary skill in the art would not recognize the concept or effect of the invention set forth in claim 1 from the teachings of Fukunaga et al.

Further, Fukunaga et al refer to the teachings of Singh as one method for producing component (A).

However, the referred to method of Singh is merely an example among many possible production methods that are mentioned by Fukunaga et al. Fukunaga et al do not disclose that the method of Singh is a preferable one. In fact, the component (A) produced in the working Examples of Fukunaga et al are indeed outside the scope of the present claim 1. Thus, Fukunaga et al do not disclose the combination of the organic polymer (A) and the specific tin carboxylate (B) of claim 1.

The organic polymer (A) recited in claim 1 is, as illustrated in Table 3 of the present specification, a polymer having a specific amount of amido units. A combination of the organic polymer (A) that has a specific structure and a specific tin carboxylate as component (B), provides a rapid curing rate. Such a combination and such an improving effect in curability are not disclosed or suggested by Fukunaga et al or by Singh.

Thus, the present invention as set forth in claim 1 is a selective invention over the teachings of Fukunaga et al.

In the Advisory Action, the Examiner asserts that Fukunaga et al name a species, in particular, the method of Singh, and therefore the species claim is anticipated no matter how many other species are additionally named. Applicants point out, however, that the present claim 1 is not a species claim, but is directed to a combination of specific components. Fukunaga et al do not disclose the combination set forth in claim 1.

In view of the above, applicants submit that Fukunaga et al and Singh do not disclose or suggest the subject matter of claim 1 and the claims dependent thereon and, accordingly, request withdrawal of this rejection.

Based on the comments in the Advisory Action, claims 4, 12 and 15 remain rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent 6,410,640 to Fukunaga et al as evidenced by U.S. Patent 4,960,844 to Singh, in view of EP 0538881 to Suzuki et al and WO 03/011978 to Okamoto et al, whose English language equivalent is U.S. 7,115,695.

Applicants submit that the cited documents do not disclose or render obvious the subject matter of claims 4, 12 and 15, and, accordingly, request withdrawal of this rejection.

Fukunaga et al do not teach the curable composition in which the component (B) is a carboxylic acid of claim 4.

The Examiner has argued that EP '881 to Suzuki et al teach the use of a carboxylic acid in place of organometallic compounds in curing a specific polymer.

However, the carboxylic acid in claim 4 is a carboxylic acid that has a quaternary carbon atom adjacent to the carbonyl group of the carboxylic acid. EP '881 to Suzuki et al do not teach the use of such a carboxylic acid.

Suzuki et al exemplify various types of carboxylic acids, such as aliphatic monocarboxylic acids, aliphatic dicarboxylic acids, aliphatic polycarboxylic acids, aromatic carboxylic acids and other amino acids. See page 4, lines 24 to 58. These examples do not include any carboxylic acid that has a quaternary carbon atom adjacent to the carbonyl group of the carboxylic acid.

The present specification states that a carboxylic acid in which the carbon atom adjacent to the carbonyl group is a quaternary carbon atom is particularly preferable because of rapid curing rate. See page 35, lines 1 to 5 of the present specification. The rapid curing rate by such a carboxylic acid is demonstrated in the Examples of the present specification.

Thus, a person of ordinary skill in the art cannot expect such an advantages based on a carboxylic acid in which the carbon atom adjacent to the carbonyl group is a quaternary carbon atom from the teachings by Suzuki et al because Suzuki et al do not provide any teaching or suggestion for use of such a carboxylic acid.

The Examiner also has stated that Okamoto et al teach that “the carboxylic acid from which the metal carboxylate is formed is preferably neodecanoic acid,” and refers to column 15, lines 61 to 65 and column 16, lines 58 to 65 of the U.S. 7,115,695 to Okamoto et al as support for his position.

Applicants submit, however, that the Examiner has not correctly analyzed the teachings of Okamoto et al.

In particular, the portions of Okamoto et al which the Examiner has referred to are part of a description of component (B) of Okamoto et al which begins at column 14, line 35, where Okamoto et al state that component (B) is a carboxylic acid metal salt. See also, column 2, lines 55-60, column 14, lines 6 to 65 and claims 1 and 5 of Okamoto et al for a description of component (B).

Thus, the various carboxylic acids disclosed at column 15, line 61, to column 16, line 8 of Okamoto et al are examples of the carboxylic acid functionality in such acid metal salts. Okamoto et al do not disclose the use as a catalyst of any free carboxylic acid wherein a carbon atom adjacent to the carbonyl group is a quaternary carbon atom.

Accordingly, Okamoto et al do not teach the use as a catalyst of a **free** carboxylic acid that has a quaternary carbon atom adjacent to the carbonyl group. This is also apparent from the above expression of the Examiner “the carboxylic acid from which the metal carboxylate is formed.” The expression means that a “carboxylic acid” in Okamoto et al is a carboxylic acid residue that is present in the metal carboxylate.

This can be recognized clearly from the description in U.S. 7,115,695 to Okamoto et al, at column 14, lines 35 to 65 which states:

The component (B) contain, as the main ingredient, **carboxylic acid** metal salts represented by the general formulas (2) to (12). . . .

As the carboxylic acid, a C2-40 (including carbonyl carbon) hydrocarbon carboxylic acid group-containing compound can be preferably used”

Further, claim 5 of Okamoto recites “. . . wherein the carboxylic acid metal salt as the component (B) is a metal salt of a carboxylic acid group-containing compound selected from . . . neodecanoic acid”

It is apparent from this claim 5 of Okamoto et al that the disclosure of neodecanoic acid in Okamoto et al is with respect to a metal salt of neodecanoic acid as an example of the component (B), and is not a disclosure of the use a free “carboxylic acid” as required by claim 4 of the present application.

Thus, Okamoto et al do not teach use of a free “carboxylic acid” as recited in claim 4 of the present application.

In the Advisory Action, the Examiner refers to column 15, lines 61 to 65 and column 16, lines 58 to 65 of Okamoto et al as disclosing advantages that are directed to the use of the free carboxylic acids used in the preparation of the metal carboxylates, and argues that based on those advantages, it would have been obvious to use the free carboxylic acid of Okamoto et al.

In response, applicants submit that the disclosure by Okamoto et al of the particular advantages that are achieved by employing a particular free carboxylic acid to prepare the carboxylic acid metal salt catalyst is not a disclosure or suggestion that the free carboxylic acid

should be used as the catalyst. Thus, the fact that particular free carboxylic acids are available and have a cheap price as disclosed at column 15, line 61, and therefore can be used as a readily available and inexpensive reactant to form the carboxylic acid metal salt which is used as the catalyst in Okamoto et al is not a disclosure that the reactant itself can be used in a composition as the catalyst.

In summary, as can be seen from the above discussion, Suzuki et al and Okamoto et al do not disclose the use as required by claim 4 of a carboxylic acid that has a quaternary carbon atom adjacent to the carbonyl group.

Accordingly, applicants request withdrawal of the rejection for claim 4 under 35 U.S.C. 103(a) as being unpatentable over Fukunaga et al as evidenced by Singh, in view of Suzuki et al and further view of Okamoto et al.

In view of the above, applicants submit that claims 4, 12 and 15 are patentable over the cited prior art and, accordingly, request withdrawal of this rejection.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

RESPONSE UNDER 37 C.F.R. § 1.114(c)
U.S. Application No.: 10/568,616

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Respectfully submitted,

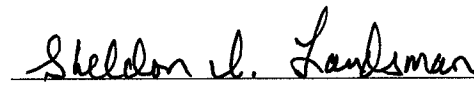
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